Pharmacogenetics: Pain Management and Psychotropic Panel

**Test Code:** MPG03  
**Turnaround time:** 10 days  
**CPT Codes:** 81225 x1, 81226 x1, 81227 x1, 81230 x1, 81231 x1, 81240 x1, 81241 x1

### Condition Description

Pharmacogenomics (or pharmacogenetics), abbreviated PGx, is the study of how genes affect a person's response to certain drugs. PGx testing uses genetic information to predict how individual patients will metabolize some prescription medications. This prediction allows an effective dose to be tailored to a person's genetic makeup, helping to prevent adverse drug reactions. Pharmacogenetics Extended Test targets variants to genotype for various haplotypes among the following 10 genes.

**Genes and Alleles Tested:**  
- **ANKK1/DRD2**  
- **COMT NM_000754.3:c.472G>A(p.V158M); rs4680**  
- **CYP2B6**  
- **CYP2C19**  
- **CYP2C9**  
- **CYP2D6**  
- **CYP3A4**  
- **CYP3A5**  
- **OPRM1 NM_000914.3:c.118A>G(p.N40D); rs1799971**

Note that “*” (read as “star”) denotes the common name of a haplotype (or combination of alleles within a gene on the same chromosome).

### Indications

Individuals who meet the defined clinical criteria for being prescribed specific drugs for psychotropic medications and pain management.

### Methodology

The test uses custom manufactured TaqMan® drug metabolism and SNP genotyping assays in 384-well format that are run on the QuantStudio™ 6 Flex platform. The complete test consists of two components: SNP genotyping and copy number quantification. The SNP genotyping component consists of 64 TaqMan® SNP Assays for 63 loci, which include single base and short insertion/deletion polymorphisms. The copy number component consists of one TaqMan® Copy Number assay for the **CYP2D6** gene.

### Specimen Requirements

**Type: Whole Blood (EDTA)**

**Specimen Requirements:**  
- EDTA (Purple Top)  
- Infants and Young Children (2 years of age to 10 years old): 3-5 ml  
- Older Children & Adults: 5-10 ml  
- Autopsy: 2-3 ml unclotted cord or cardiac blood

**Specimen Collection and Shipping:**  
Ship sample at room temperature for receipt at EGL within 72 hours of collection. Do not freeze.

**Type: Liquid Buccal Swab**

**Specimen Requirements:**  
- ORAcollect-DX (OCD-100)|Assisted saliva collection kit  
- DNA Genotek ORAcollect-DX kit used according to manufacturer instructions. Please contact EGL for a saliva collection kit for patients that cannot provide a blood sample.

**Specimen Collection and Shipping:**  
Please do not refrigerate or freeze saliva sample. Please store and ship at room temperature.

### Related Tests

Pharmacogenetics Expanded Panel (MPG01)

Disclaimer: This information is confidential and subject to change without notice. It may not be reproduced in whole or part unless authorized in writing by an authorized EGL representative.